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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,541	11/29/2001	Derek Forbes	ACO6194US	7266

7590

09/06/2005

Joan M. McGillicuddy  
7 Livingstone Avenue  
Dobbs Ferry, NY 10522

EXAMINER
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TSOY, ELENA

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/997,541	FORBES ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Elena Tsoy	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                               | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5/31/05</u> . | 6) <input type="checkbox"/> Other: _____                                    |

*17*

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/22/2005 has been entered.

***Response to Amendment***

1. Amendment filed on 8/22/2005 has been entered. New claim 11 has been added. Claims 2-11 are pending in the application.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 9, 2, 3, 10, 11** are rejected under 35 U.S.C. 102(b) as being anticipated by Larson et al (US 5,425,968).

Larson et al disclose a process for making and applying a coating composition using a plural component apparatus (See column 1, lines 10-18) employing in some cases **more than two** packages or components (See column 1, lines 59-61; column 5, lines 40-48) such as a combination of functional groups: amine/isocyanate, hydroxy/isocyanate,

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**hydroxy/isocyanate/amine** (claimed three components), amine/epoxy, **amine/epoxy/isocyanate** (claimed three components) (See column 9, lines 50-60) comprising selecting a mixing ratio for the components (See column 4, lines 61-63), mixing the components of the coating composition and applying by spraying the coating composition (See column 1, lines 15-18; column 3, lines 1-2); whereby a *plurality* of coating compositions with varying properties can be made and applied to the *substrates* (See column 9, lines 31-35, 49-65). The method may be used to apply coating compositions such as primers, basecoats, topcoats, or clearcoats (See column 9, lines 3-5). The coating composition dries and cures at temperatures ranging from about ambient to 80 °C (68 °F-176 °F) (See column 2, lines 63-64). The coating compositions, either involving modified or new chemistry, may have various VOC levels (claimed use of the original starting coating compositions) in response to various dry time and cure time needs, for example for spot repair versus overall repair (See column 9, lines 40-49).

The Examiner Note: since isocyanate reacts with amine or alcohol, and epoxy reacts with amine, the combination **hydroxy/isocyanate/amine** is a combination of two different binders: a binder A (hydroxy) and a binder C (amine) and isocyanate hardener B; and the combination **amine/epoxy/isocyanate** is a combination of a binder A (amine) and two different hardeners: a hardener B (isocyanate) and a hardener C (epoxy). Since isocyanate and epoxy hardeners have different reactivity, one of them is faster than other toward a selected binder.

Larson et al further teach, “The invention is directed to an improved method and apparatus for applying a multicomponent coating composition, which composition may be used to **refinish automobiles** or *other* substrates. The method involves the use of an inexpensive, self driven, simple volumetric proportioning device which may be used to supply the components of

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the coating composition in the **proper mix ratio** to an atomizer or other coating device” (See column 4, lines 19-26). “A component A in supply container 1 and a component B in supply container 2 are both connected to the volumetric proportioner 3 which provides a **controlled ratio of the two components** to a static mixer 5. A check valve 4 in each line prevents backflow of the mixed composition. The mixed composition enters a coating device, in this case a spray gun 6, for spraying the paint onto a substrate such as an automobile surface being refinished” (See column 4, lines 43-50).

Larson et al teach, “Depending on the **needs** and the **particular application** and **circumstances**, compositions which involve existing chemistries may be modified to provide **faster dry/cure time** at lower VOC, lower spray viscosity at lower VOC, and/or lower cost” (See column 9, lines 27-32)

Larson et al teach, “The above mentioned compositions, either involving modified or new chemistry, may have various VOC levels in response to **various dry time** and **cure time needs**, for example for **spot repair versus overall repair** (See column 9, lines 40-49).

Thus, one of ordinary skill in the art at would understand that the teaching of Larson et al implies changing *combination* and *ratio* of components depending on parts or color of automobile being refinished or depending on what kind of other surfaces is to be refinished, i.e. *combination* and *ratio* of components should be adjusted to be appropriate for different substrates.

As to claims<sup>10</sup>, Larson et al disclose a process for making and applying a coating composition using a plural component apparatus (See column 2, lines 49-50) employing in some cases *more than two* packages or components (See column 1, lines 59-61; column 5, lines 40-48) such as a combination of functional groups: *hydroxy/isocyanate/amine*, *amine/epoxy/isocyanate*

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(See column 9, lines 50-60) comprising selecting a mixing ratio for the components (See column 4, lines 61-63), mixing the components of the coating composition and applying by spraying the coating composition (See column 1, lines 15-18; column 3, lines 1-2); whereby a **plurality of coating compositions** with **varying** properties can be made and applied to the substrates (See column 9, lines 31-35, 49-65). Larson et al further teach that the method may be used to apply coating compositions such as primers, basecoats, topcoats, or clearcoats, especially convenient for applying clearcoats and primers, since they are normally one color and therefore do not require color changes *between* applications, and it is therefore not necessary to use solvents to purge the equipment between use (i.e. between claimed steps ii-iii for selecting and setting a first mixing ratio, and applying a primer and claimed steps iv-v for selecting and setting a second mixing ratio, and applying clearcoat) (See column 9, lines 3-13).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 3-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Larson et al in view of Vu (US 4,710,560).

Larson et al are applied here for the same reasons as above. Larson et al teach that both aromatic and aliphatic diisocyanates may be used as hardeners (See column 10, lines 11-19).

However, Larson et al fail to teach that the coating composition comprises a combination of

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aromatic and aliphatic diisocyanates, hardeners having different reactivity (the aromatic diisocyanates being faster than aliphatic ones), i.e., a combination **hydroxy/isocyanate** is a combination of hydroxy binder A/aromatic isocyanate B (hardener with fast reactivity (sanding hardener))/aliphatic isocyanate C (a hardener with slow reactivity (wet-in-wet hardener)) (Claims 3, 4, 7) with volume percentage of binder A being between 5 % and 95% (Claim 5) or between 10 % and 90 % (Claim 6), the volumetric ratio of A to B+C ranging from 100:80 to 100:60 (Claim 7); and a combination **amine/epoxy/isocyanate** is a combination of amine binder A/aromatic isocyanate B (a hardener with fast reactivity)/aliphatic isocyanate C (a hardener with slow reactivity) and a epoxy hardener D (Claim 8).

Vu teaches that if a mixture of an aliphatic and an aromatic isocyanate is used, due to the difference in reactivity ratios of these reactants, the aliphatic moieties will predominate at the terminus locations since they react more slowly than aromatic isocyanates with --OH groups. Thus, using aromatic and aliphatic diisocyanates having different reactivity toward OH-groups a polymer with predetermined structure and properties can be achieved. See column 4, lines 55-60.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used both aromatic and aliphatic diisocyanates having different reactivity toward OH-groups as isocyanate hardener in coating compositions of Larson et al with the expectation of providing the resulting polymer with desired structure and properties, as taught by Vu.

It is held that concentration limitations are obvious absent a showing of criticality. *Akzo v. E.I. du Pont de Nemours* 1 USPQ 2d 1704 (Fed. Cir. 1987).

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters (including those of claims 5-7) in a process of Larson et al through routine experimentation in the absence of a showing of criticality.

#### ***Response to Arguments***

7. Applicants' arguments filed 8/22/2005 have been fully considered but they are not persuasive.

(A) Applicants argue that in contrast to the presently claimed invention, there is no teaching, suggestion, or disclosure in Larson that more than one coating composition can be produced and applied to one or more substrates during a particular use of the apparatus using the original starting coating components. At col. 9, lines 3-13 of the specification, Larson notes that it is not necessary to use solvents to purge the equipment between uses if the user is applying coating compositions of one color and color changes are not required between applications. It is asserted in the office action that this statement demonstrates that the apparatus of Larson does not have to be disassembled between uses. Applicants respectfully disagree. The fact that a solvent is not employed to clean out the equipment in this particular situation does not mean that the starting components are not switched (i.e., which would require the containers for the first set of starting components to be disassembled from the apparatus and replaced with containers of a new group of starting components) in order to change the type of coating being produced. This



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statement merely suggests that when coatings of the same color are being produced, it is not necessary to clean the equipment because there would not be any cross contamination of colors.

The Examiner respectfully disagrees with this argument. Larson et al teach that a system comprising fixed multiple components (See column 5, lines 45-48) can be used for refinishing automobiles and *other* substrates by supplying the components of a coating composition in a *proper* mix ratio (i.e. depending on particular application) (See column 4, lines 24-27), either involving modified or new chemistry, having various VOC levels or concentrated catalysts in response to various dry time and cure time needs, for example for spot repair *versus* overall repair (See column 9, lines 14-26, 40-49). In other words, Larson *explicitly* teaches at least the use of **the original starting coating compositions** for making different coating compositions for various purposes.

(B) Applicants argue that although it is true that the Larson apparatus may be used to apply different coating compositions, such as primers, basecoats, topcoats, clearcoats, etc, no where in Larson is it taught, suggested, or disclosed that such different coating compositions may be formulated and applied without changing the original combination of components utilized or without disassembling the apparatus. For example, in order to vary the ratios of the components being used, and thereby form a different coating composition, it is necessary to stop use of the Larson apparatus and replace one or more of the cylinders or piston rods with cylinders or piston rods of different diameters (see col. 7, lines 36 –52 and col. 8, lines 44-46). As the cylinders or piston rods would need to be replaced in order to change the ratio of the components, it is not possible to change the ratio of the components, and hence the coating formulation, while the components remain fixed in the apparatus, as is taught and claimed in the present application. As

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such, Larson does not teach, suggest or disclose a specific combination of components which may be utilized to provide different coatings merely by changing the ratios of the same specific combination of components during the same use of a plural component apparatus, while the same combination of components remain fixed within the plural component apparatus.

As to disassembling the apparatus and the cylinders or piston rods being replaced,,  
Larson et al teach that the method may be used to apply coating compositions such as primers, basecoats, topcoats, or clearcoats, especially convenient for applying clearcoats and primers, since they are normally one color and therefore do not require color changes between applications, and it is therefore not necessary to use solvents to purge the equipment between use (See column 9, lines 3-13). Larson et al further teach that a *separate* cylinder and piston may be used for each component composition, although **various configurations of pistons and cylinders and their cooperation** are available to the **skilled artisan** for use in such a proportioning device including embodiments where the movement of the separate pistons are simultaneous, by physical connection or other means, and the stroke length of each is the same. By this means, if only one component is supplied under pressure, it can provide the energy to "pump" the other components through the proportioning device (See column 3, lines 45-59).

In other words, Larson et al teach that the same apparatus can be used for applying next coating **without disassembling** the apparatus using **various configurations of pistons and cylinders and their cooperation** available to the **skilled artisan** for use in such a proportioning device.

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***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-142323. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy  
Primary Examiner  
Art Unit 1762

**ELENA TSOY  
PRIMARY EXAMINER**



August 31, 2005